

**Remarks:**

1. Claims 1 through 45 were originally presented in the instant application. No claims have been added. Claim 17 has been amended as described in more as described below. Claims 1 through 45 remain pending.

2. The Examiner indicated in paragraph 1 of the Office Action that the IDS filed 29 September 2003 failed to comply with the provisions of 37 C.F.R. 1.97, 1.98 and MPEP s. 609 because the reference numbered "BJ" had no publication dates. The Examiner further noted that the information contained in that reference has not been considered. In conjunction with this response to office action, Applicant is submitting a supplemental IDS that includes a proper citation of the reference previously numbered "BJ." Reconsideration of the objection to the 29 September 2003 IDS is therefore requested.

3. The Examiner indicated in paragraph 2 of the Office Action that the disclosure was objected to because the "Related Applications" section of the specification was incomplete. In response, Applicant has amended that section to include the inadvertently omitted patent application. Reconsideration of the rejection to the "Related Applications" section of the specification is therefore requested.

4. The Examiner indicated in paragraph 4a of the Office Action that the disclosure was objected to because of the use of the term "infinitesimal." The Examiner indicated that "this term is finite and defined and used in mathematics to define an infinitely small number. It is not clear in the specification and in the claims just what the term for the 'infinitely small number antenna' is used for." Applicant respectfully traverses this objection. In this instance, Applicant does not use the term "infinitesimal" in a mathematical sense. Instead, Applicant uses this term as an indication of size, such as an "antenna of an infinitely small size." In support, Applicant would direct the Examiner to paragraph [0109] on page 39 of the instant application, in which Applicant notes that in one embodiment of the present invention, a simplified model of the measurement device is achieved if the details of the measurement device can be ignored, such as

the finite size of the antennas. In this embodiment, in view of this clarification, Applicant respectfully requests reconsideration of the objection to the use of the term “infinitesimal.”

5. The Examiner indicated in paragraph 4b of the Office Action that the disclosure was objected to because of the use of the term “substantial vacuum” in the claims and the specification. In response, Applicant has removed the word “substantial” from the phrase “substantial vacuum” to simply leave “vacuum.” Applicant respectfully requests reconsideration of this objection.

6. Claims 1-45 stand rejected under 35 USC 101 as allegedly being directed to non-statutory subject matter “and are drawn to a computation method for estimating the electrical parameters of an earth formation using a BHA measuring device in the borehole of an earth formation with a model and computation process and processing the formation data that fail to show the clear, concrete and tangible results.” In particular, claims 1, 11 (in combination with claim 1), 20, 27 (in combination with claim 20), 33 and 42 were rejected under 35 U.S.C. 101. The balance of the claims (all dependent claims) was rejected for being based on a rejected base claim. Claims 2-10, 12-17, 21-32, 34-41 and 43-45 were all objected to as being dependent upon a rejected base claim, but were indicated to be allowable over the cited art of record if rewritten into independent form including all of the limitations of the base claims and any intervening claims.

7. The Applicant respectfully traverses the rejections to independent claims 1, 20, 33 and 42. Each independent claim has been amended to recite: “...using the estimate of the at least one electrical parameter of the earth formation in a manner selected from the group consisting of detecting a hydrocarbon within the earth formation, guiding a drill bit within a productive zone of the earth formation, estimating pore pressure of the earth formation, evaluating geological features of the earth formation, and detecting vertical fractures within the earth formation.”

8. Applicant respectfully submits that each independent claim, as amended, now meets the requirements of 35 U.S.C. 101. The examiner indicates that for the independent

claims to meet the requirements of 35 U.S.C. 101, the result “would need to output to a user or displayed to a user or stored for later use.” Applicant respectfully asserts that the appropriate test for determining whether the claims meet the requirements of 35 U.S.C. 101 is whether the practical application of the claims produce a useful, concrete and tangible result. MPEP s. 2106(IV)(C)(2)(2). In the instant case, using the estimate of the at least one electrical parameter to determine a property of the earth formation is 1) useful to those in the art, 2) provides a tangible (rather than abstract) and practical application of the estimate to produce a real world result, and 3) provides concrete, repeatable and predictable results. *Id.* This conclusion is supported by the Federal Circuit’s analogous decision in *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 1373-74, 47 U.S.P.Q. 2d 1596, 1601-02 (Fed. Cir. 1998) (“the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result’ - a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.”). As with the Federal Circuit approved factual situation in *State Street*, the independent claims of the instant invention transform data into a useful, concrete and tangible result that is accepted and relied upon by those in the art of formation evaluation.

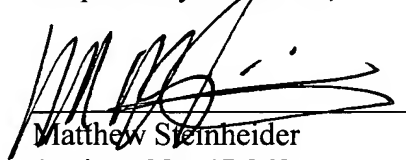
8. For the foregoing reasons, Applicant respectfully submits that independent claims 1, 20, 33 and 42 meet the requirements of 35 U.S.C. 101. Applicant requests reconsideration and allowance of said independent claims. Independent claims 1, 20, 33 and 42 being allowable, it follows *a fortiori* that dependent claims 2-19, 21-32, 34-41 and 43-45 must also be allowable, since these dependent claims carry with them all the elements of the independent claims to which they ultimately refer.

Applicant believes in view of the foregoing remarks, that pending claims 1-45 are allowable, and that this application is now in full condition for allowance, which action Applicant earnestly solicits. Should the Examiner have any questions, or believe that a telephone interview may expedite the further examination of this application, the Examiner is requested to contact the undersigned at the telephone number shown below.

Date: \_\_\_\_\_

9/15/06

Respectfully submitted,



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